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EXAMINER

GOINS, DAVETTA WOODS

| ART UNIT | PAPER NUMBER |
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2632

DATE MAILED: 03/13/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/730,327

Applicant(s)

RAST, RODGER H.

Examiner

Davetta W. Goins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-59 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 & 5. 6) ☐ Other: ____

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Gearey (US Pat. 4,916,431).

In reference to claims 1-4, Gearey discloses the claimed means for sensing the urgency with which the brakes of the vehicle are being activated and generating a signal in response thereto, and means for rearwardly communicating sufficiently urgent levels of braking to other drivers in response to the signal crossing a predetermined threshold, which is met by low pressure sensor 45 and high pressure sensor 47 sandwiched together in the brake pedal's rubber skid pad. The sensors used to determine the amount of pressure applied and actuate stock brake lights to alert following drivers to an emergency ahead. Additional contacts provide a variable brake pressure sensor capable of incrementing the brightness of a warning lamp proportional to the brake pressure being applied (col. 7 lines 64-68 and col. 8 lines 1-64).

3. Claims 53-54 and 56-59 are rejected under 35 U.S.C. 102(b) as being anticipated by Beymer (US Pat. 5,424,726).

In reference to claims 53, 54, 56-59, Beymer discloses the claimed method of early detection of brake pedal activation, prior to brake engagement; and activation of an alerting signal so that drivers following the braking vehicle are provided with additional time to respond to the braking action, which is met by a unit within a vehicle attached to a deceleration indicator which transmits rf signals to following vehicles to indicate that the present vehicle is braking. The transmitted rf signal will also operate a lamp display within the following vehicle (col. 6 lines 9-51).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Geary in view of Yanagi (US Pat. 6,278,360 B1).

In reference to claims 5, Gearey does not specifically disclose the claimed means for rearwardly communicating urgent levels of braking to other drivers comprising a remote communications link, such as radio-frequency, operably coupled to a visual indicator within the vehicles of the other drivers, upon which urgent levels of braking of the first vehicle are capable of being displayed. However, Gearey does disclose a sensor attached to the brake for sensing levels of deceleration and incrementing the brightness of

a warning lamp proportional to the brake pressure being applied and provide an indication to following motorists of the rate at which the lead vehicle is braking (col. 8 lines 11-50). Beymer discloses a unit within a vehicle attached to a deceleration indicator which transmits rf signals to following vehicles to indicate that the present vehicle is braking. The transmitted rf signal will also operate a lamp display within the following vehicle (col. 6 lines 9-51). Since Gearey discloses a vehicle which detects the braking within the vehicle and is capable of generating a display which indicates to following vehicles the rate at which the vehicle is braking, it would have been obvious to one of ordinary skill in the art to incorporate the process of transmitting a signal from a first vehicle to other vehicle, as disclosed by Beymer, with the system of Gearey, and connect the visual indicator in other vehicles, to ensure that the other vehicles are clearly aware of the deceleration taking place in the leading vehicle.

6. Claims 6-27, 33, 35, 52, are rejected under 35 U.S.C. 103(a) as being unpatentable over Beymer in view of Geary.

In reference to claims 6-10, 14, 23, 33, 52, Beymer discloses the sensor configured to generate a signal in response to the rapidity with which the brakes are applied by the driver of a first vehicle, and a controller operably connected to receive the signal from the sensor and configured to activate an event indicator upon the signal crossing a predetermined threshold, the event indicator configured for recognition by drivers within one or more of the following vehicles, which is met by a unit within a

vehicle attached to a deceleration indicator which transmits rf signals to following vehicles to indicate that the present vehicle is braking. The transmitted rf signal will also operate a lamp display within the following vehicle (col. 6 lines 9-51). Although Beymer does not specifically disclose the claimed attachment for the sensor to the braking system, he does disclose the indicator 30 is operated by the deceleration of the vehicle. Geary discloses a low pressure sensor 45 and high pressure sensor 47 sandwiched together in the brake pedal's rubber skid pad. The sensors used to determine the amount of pressure applied and actuate stock brake lights to alert following drivers to an emergency ahead. Additional contacts provide a variable brake pressure sensor capable of incrementing the brightness of a warning lamp proportional to the brake pressure being applied (col. 7 lines 64-68 and col. 8 lines 1-64). Since Beymer discloses a vehicle alert system which operates a panel of lights based upon the deceleration detected within the vehicle, it would have been obvious to one of ordinary skill in the art to incorporate the attached brake sensor, as disclosed by Geary, with the system of Beymer, to accurately determine the amount of braking that is taking place before giving an indication for following drivers to view.

In reference to claim 11, Beymer discloses the claimed event indicator comprising a light source, which is met by panel indicator 30 including lamps 34, 36, and 38 (col. 6 lines 25-36).

In reference to claims 12, 13, although Beymer does not disclose the claimed light source is modulated on and off by the controller to increase recognition by the drivers of other vehicles, he does disclose a system in which a display 30a-c will be illuminated in other vehicle's based on the detected deceleration of a leading vehicle (col. 6 lines 25-51). A rear light may be mounted on the rear deck of the vehicle to indicate to following motorists of the braking of the leading vehicle (col. 10 lines 54-68). Gearey discloses a vehicle warning light display which is capable of incrementing the brightness of a warning lamp proportional to the brake pressure being applied (col. 8 lines 19-38). A flasher 94 I connected to the warning light to emit pulses of current which flow to bulb 95 (col. 10 lines 62-68 and col. 11 lines 1-16). Since Beymer discloses a vehicle alert system which operates a panel of lights based upon the deceleration detected within the vehicle, it would have been obvious to one of ordinary skill in the art to incorporate a light source which may be modulated, as disclosed by Gearey, to ensure that the following driver is aware of the leading vehicle's deceleration.

In reference to claims 15-20, Beymer discloses the claimed communications link being configured with a communications protocol in which senders and receivers are synchronized to the order of event occurrence, which is met by a unit within a vehicle attached to a deceleration indicator which transmits rf signals to following vehicles to indicate that the present vehicle is braking. The transmitted rf signal will also operate a lamp display within the following vehicles in a chain form and indicate the order of deceleration the preceding vehicles (col. 6 lines 9-51). Since Gearey discloses a vehicle

which detects the braking within the vehicle and is capable of generating a display which indicates to following vehicles the rate at which the vehicle is braking, it would have been obvious to one of ordinary skill in the art to incorporate a communications link in which senders and receivers are synchronized to the order of event, as disclosed by Beymer, to ensure that the other vehicles are aware of the number and priority of preceding vehicle's braking pattern.

In reference to claims 21, 22, Beymer discloses the claimed controller being configured to encode severity data within the event signal, which is met by a vehicle within a chain of other vehicles will receive a signal a high or low signal to indicate how close the vehicle is in relation to the one that is braking (col. 7 lines 3-64).

In reference to claims 24-27, 35, Beymer discloses the claimed combination of receiver and operably connected controller being configured to provide for selective regeneration of received signals which are retransmitted to additional vehicles, which is met by a processing unit 20f, within a present vehicle, sending either a high or low signal to other vehicles within the chain to inform the following vehicles that the present vehicle is braking and in which order of the chain the following vehicles are located (col. 9 lines 1-44).

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7. Claims 28-32, 41, and 47-51 rejected under 35 U.S.C. 103(a) as being unpatentable over Beymer in view of Geary as applied to claim 14 above, and further in view of Yanagi (US Pat. 6,278,360 B1).

In reference to claims 28, 29, 31, 32, Beymer does not specifically disclose the claimed crash detection sensor operably connected to the controller and configured to generate a crash event in response to detection of a crash, an acceleration sensor sensing levels of acceleration, or a swerve sensor. Yanagi discloses a vehicle collision warning system comprising an alarm 41, which emits a warning sound or message as well as illuminating stop lamp 42 for informing a driver of the following vehicle of the possibility of a collision. The following vehicle may include a display within the vehicle to indicate a warning. The driving condition detecting unit 20 includes a speed sensor 21, acceleration 22, and a yaw sensor 23 (col. 3 lines 3-30). Since both Beymer and Yanagi disclose vehicle alert systems which include a means for transmitting warning signals from one vehicle to a following vehicle to prevent collisions, it would have been obvious to one of ordinary skill in the art to incorporate a crash sensor, acceleration sensor, and swerve sensor, as disclosed by Yanagi, with the system of Beymer, to prevent the possibility of collisions by providing a system which is capable of determining specific conditions of the leading vehicle which would may be taken into account before transmitting false or premature signals to following vehicles..

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In reference to claim 30, Beymer does not disclose the claimed airbag deployment.

Yanagi discloses a collision detection system which includes a seat belt controller 57 and brake controller 59 to automatically outputting a command for braking (col. 5 lines 1-9). Since both Beymer and Yanagi disclose vehicle alert systems which include a means for transmitting warning signals from one vehicle to a following vehicle to prevent collisions, it would have been obvious to one of ordinary skill in the art to incorporate an airbag which will automatically be deployed upon the detection of a collision to protect the passengers within the vehicle.

In reference to claim 41, Beymer does not specifically disclose the claimed range detection device operably connected to the controller and capable of determining the distance to the vehicle being followed such that the controller may detect impending crash situations and respond to events in a manner consistent with the amount of following distance that exists. Yanagi discloses a control unit 30 outputting a command to the distance detecting unit 10 for detecting a distance once the speed exceeds a threshold value (col. 3 lines 21-38). Since both Beymer and Yanagi disclose vehicle alert systems which include a means for transmitting warning signals from one vehicle to a following vehicle to prevent collisions, it would have been obvious to one of ordinary skill in the art to incorporate a distance detection means, to ensure that the following vehicle drivers are warned when the distance is beyond a threshold and avoid collisions.

In reference to claims 44, 47-51, Beymer discloses the accelerator pedal sense input to the controller, a light signal controller including individual LEDs whose state of activity is

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selectively controlled by the light signal controller, which is met by a display 30a-c will be illuminated in other vehicle's based on the detected deceleration of a leading vehicle (col. 6 lines 25-51). A rear light may be mounted on the rear deck of the vehicle to indicate to following motorists of the braking of the leading vehicle (col. 10 lines 54-68). Although Beymer does not disclose the communications link capable of generating a signal to the cruise control for releasing the pressure on the accelerator pedal or claimed automatic braking connected to the controller, he does disclose a visual display that will be operated in each following vehicle to indicate any deceleration of the previous vehicle. Yanagi discloses a collision detection system which includes a seat belt controller 57 and brake controller 59 to automatically outputting a command for braking (col. 5 lines 1-9). Since both Beymer and Yanagi disclose vehicle alert systems which include a means for transmitting warning signals from one vehicle to a following vehicle to prevent collisions, it would have been obvious to one of ordinary skill in the art to incorporate a cruise control releasing means and an automatic braking system, as disclosed by Yanagi, with the system of Beymer, to further provide a means for preventing collisions between following vehicles.

8. Claims 34, 37, 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beymer in view of Geary as applied to claim 14 above, and further in view of Rahman (US Pat. 6,121,896).

In reference to claims 34, although Beymer does not specifically disclose the claimed event indicator located in the second vehicle providing an audible alert to the

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driver of the second vehicle, such as a vehicle indication on the dashboard, he does disclose a display 30a-c will be illuminated in other vehicle's based on the detected deceleration of a leading vehicle (col. 6 lines 25-51). Rahman discloses a vehicle system including a brake switch 30 used to operate brake lights 31. A warning signal can be transmitted to the next vehicle before the brakes are actually engaged to produce an audible warning signal 32 (col. 4 lines 23-42). Since Beymer discloses a display panel in the following vehicle, informing them of the braking done in the leading vehicle, it would have been obvious to one of ordinary skill in the art to incorporate an audible signal, as disclosed by Rahman, with the system of Beymer, since it is well known in the art to use audible alarms over visual alarms, to ensure that the attention from the driver is directed toward the braking of the leading vehicle and not having to look at a panel within the cab of the car.

In reference to claims 37, 38, 40, although Beymer does not specifically disclose the claimed event indicator configured for indicating roadway condition messages being a visual display comprising at least one array of display elements adapted for displaying text and/or graphics, he does disclose a display 30a-c will be illuminated in other vehicle's based on the detected deceleration of a leading vehicle (col. 6 lines 25-51). Rahman discloses a vehicle system including a brake switch 30 used to operate brake lights 31. A warning signal can be transmitted to the next vehicle before the brakes are actually engaged to produce an audible warning signal 32 (col. 4 lines 23-42). The vehicle may be provided with a weather sensor 29 which is capable of detecting the

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weather or road surface condition (col. 4 lines 11-22). Since both Beymer and Rahman are capable of transmitting a braking signal from the leading vehicle to a following vehicle, it would have been obvious to one of ordinary skill in the art to incorporate the sensor for detecting and indicating roadway condition, as disclosed by Rahman, with the system of Beymer, to adjust the warning signal in accordance with both the vehicle speed and the weather or road surface condition.

In reference to claim 39, although Beymer doesn't specifically disclose the claimed speed sensor connected to the controller, wherein event signal generation is fully or partially responsive to the output of the speed sensor, such that braking activity which occurs within slow moving vehicles, as in parking lots, does not unnecessarily alert drivers on the roadway, he does disclose a display 30a-c will be illuminated in other vehicle's based on the detected deceleration of a leading vehicle (col. 6 lines 25-51). Rahman discloses a system which includes a threshold detector 26 used to disable operation of the transmitter T whenever the motor vehicle is traveling at a relatively slow speed (col. 3 lines 48-59). Since both Beymer and Rahman are capable of transmitting a braking signal from the leading vehicle to a following vehicle, it would have been obvious to one of ordinary skill in the art to incorporate a means for not operating the brake in specific conditions, such as Rahman's threshold detector for not operating the transmitter when the speed is slow, to prevent the brake lights in the other vehicles from being operated in conditions that are less severe or relevant to hazardous conditions.

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9. Claims 42, 43, 46, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beymer in view of Geary as applied to claim 14 above, and further in view of Donnelly et al. (US Pat. 6,076,028).

In reference to claim, discloses the claimed 42, 43, 46, 55, although Beymer does not disclose the claimed communication link configured for transmitting event signals capable of being received within a properly configured call box, or a wireless telephone connected to the controller capable of automatically dialing out a predetermined emergency number, he does disclose a means for transmitting deceleration signals to following vehicles and operating a visual display within the following vehicles notifying the drivers of the severity of the braking pattern (col. 6 lines 9-51). Donnelly discloses a method of determining a crash event based on the detected acceleration of the vehicle and storing the crash event data to be reviewed later. A GPS receiver 109 is used to determine the location of the vehicle such that dispatch center 101 can provide help to the vehicle. A modem 11 modulates the crash event data for transmission via a cellular phone transceiver 113, or by using other wireless data transmission methods (col. 3 lines 41-67 and col. 4 lines 1-10). Since both Beymer and Donnelly detect the acceleration of the vehicle and transmit a signal to a remote location based on a hazardous condition, it would have been obvious to one of ordinary skill in the art to incorporate the use of determining a crash event which will transmit a signal to an emergency number, as disclosed by Donnelly, to provide immediate attention to be directed to the vehicle after a detected crash event.

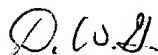
10. The prior art of record and not relied upon is considered pertinent to applicant's disclosure as follows. Leighton (US Pat. 4,404,439) and Carlson et al. (US Pat. 5,892,434), which are references that deal with vehicle deceleration devices.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davetta W. Goins whose telephone number is 703-306-2761. The examiner can normally be reached on 4-5-9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A. Hofsass can be reached on 703-305-4717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3988 for regular communications and 703-305-3988 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-7666.

Davetta W. Goins
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D.W.G.
March 10, 2002